Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) A method for determining the effect of a substance on sequestration, uptake or accumulation of amyloid in brain cells, said method comprising:

(A) exposing brain cells to an integrin antagonist, wherein said antagonist is not TGFβ ~~a condition that modulates integrins or integrin receptors in said cells~~,

(B) maintaining said cells for a time sufficient to induce sequestration, uptake or accumulation of amyloid in said cells as a result of said antagonist,

(C) adding said substance before, during and/or after said exposing or maintaining; and

(D) determining whether the presence of said substance has an effect on said antagonist induced sequestration, uptake or accumulation of amyloid.

2. (canceled)

3. (previously presented) The method of claim 1, wherein sequestration, uptake or accumulation of amyloid increases.

4. (original) The method of claim 3, wherein said increase is at least about 10% compared to a control.

5. (previously presented) The method of claim 1, wherein at least one of said sequestration, uptake or accumulation of amyloid decreases.

6. (original) The method of claim 5, wherein said decrease is at least about 10% compared to a control.

7. (original) The method of claim 1, wherein the brain cells are in the form of a brain slice.

8. (original) The method of claim 7, wherein the brain slice is a hippocampal slice, an entorhinal cortex slice, an entorhinohippocampal slice, a neocortex slice, a hypothalamic slice, or a cortex slice.

9. (withdrawn) The method of claim 1 wherein said brain cells are *in vivo*.

10. (withdrawn) The method of claim 1, wherein the brain cells are from a non-human transgenic animal.

11. (withdrawn) The method of claim 10, wherein said non-human transgenic animal comprises a human apolipoprotein E4 gene.

12. (withdrawn) The method of claim 10 wherein both alleles of an endogenous apolipoprotein E gene of the non-human transgenic animal are ablated.

13. (canceled)

14. (currently amended) The method of claim 13 wherein said antagonist ~~or modulator of integrin~~ is a neutralizing or function blocking antibody for integrin subunits

wherein said subunits are selected from the consisting of: alpha1, alpha2, alpha3, alpha4, alpha5, alpha6, alpha7, and alpha8, beta1, beta2, beta3, beta4, beta5, beta6, beta7 and beta8.

15. (currently amended) The method of claim 13, wherein said antagonist ~~or modulator of integrin~~ comprises a compound selected from the group consisting of RGD, RGDS (SEQ. ID. No.1), GRGDS (SEQ. ID. No.2), GRGDTP (SEQ. ID. No.4) and GRGDSP (SEQ. ID. No.3), mimetics thereof, echistatin, trilavin, disintegrins and snake venom.

16. (currently amended) The method of ~~claim1~~ claim 1, wherein the amount ~~of;~~ of sequestration of amyloid, accumulation of amyloid, or uptake of amyloid, is determined visually.

17. (currently amended) The method of claim 1, wherein the amount ~~of;~~ of sequestration of amyloid, accumulation of amyloid, or uptake of amyloid is measured using a capture reagent.

18. (previously presented) The method of claim 16, wherein the capture reagent is an antibody that binds to amyloid.

19. (previously presented) The method of claim 1 wherein said cells are apolipoprotein E deficient brain cells or apolipoprotein E4 containing brain cells cultured in a medium which selectively increases sequestration of and/or accumulation of and/or uptake of amyloid, and/or lysosomal dysfunction, and/or microglia activation in the brain cells, wherein the brain cells comprise an increased amount of sequestration of and/or accumulation of and/or uptake of amyloid, and/or lysosomal dysfunction, and/or microglia activation compared to a control.

20 - 35. Canceled.

36. (currently amended) The method of claim 1[[,]] wherein said substance is added prior to exposing said ~~the~~ brain cells ~~are~~ to said antagonist ~~contacted with a compound that modulates integrins or integrin receptors prior to contacting with the~~ substance ~~whose effect is being determined~~.

37. (currently amended) The method of claim 1, wherein said substance is added to said ~~the~~ brain cells ~~are contacted~~ simultaneously with said antagonist ~~the compound that modulates integrins and/or integrin receptors and the substance whose effect is being determined~~.

38. - 58. canceled.

59. (currently amended) A method for determining whether a substance is capable of inhibiting ~~the effect of a substance on inhibition of~~ sequestration, uptake or accumulation of amyloid in brain cells, said method comprising:

(A) exposing brain cells to an integrin antagonist, wherein said antagonist is not TGFβ a condition that modulates integrins or integrin receptors in said cells,

(B) maintaining said cells for a time sufficient to induce sequestration, uptake or accumulation of amyloid one or more characteristics of a neurodegenerative disease in said cells as a result of said antagonist,

(C) adding said substance before, during and/or after said exposing or maintaining; and

(D) determining whether the presence of said substance inhibits one or more of said characteristics sequestration, uptake or accumulation of amyloid in said cells.

60. canceled.

61. (previously presented) The method of claim 59, wherein at least one of said sequestration, uptake or accumulation of amyloid decreases.

62. (original) The method of claim 61, wherein said decrease is at least about 10% compared to a control.

63. (original) The method of claim 60, wherein the brain cells are in the form of a brain slice.

64. (original) The method of claim 63, wherein the brain slice is a hippocampal slice, an entorhinal cortex slice, an entorhinohippocampal slice, a neocortex slice, a hypothalamic slice, or a cortex slice.

65. (withdrawn) The method of claim 59 wherein said brain cells are *in vivo*.

66. (withdrawn) The method of claim 59, wherein the brain cells are from a non-human transgenic animal.

67. (withdrawn) The method of claim 66, wherein said non-human transgenic animal comprises a human apolipoprotein E4 gene.

68. (withdrawn) The method of claim 67 wherein both alleles of an endogenous apolipoprotein E gene of the non-human transgenic animal are ablated.

69. canceled.

70. (currently amended) The method of claim 69 wherein said antagonist ~~or modulator of integrin~~ is a neutralizing or function blocking antibody for integrin subunits wherein said subunits are selected from the group consisting of: alpha1, alpha2, alpha3, alpha4, alpha5, alpha6, alpha7, and alpha8, beta1, beta2, beta3, beta4, beta5, beta6, beta7 and beta8[[.]]

71. (currently amended) The method of claim 69, wherein said antagonist ~~or modulator of integrin~~ comprises a compound selected from the group consisting of RGD, RGDS (SEQ. ID. No.1), GRGDS (SEQ. ID. No.2), GRRDT (SEQ. ID. No.4) and GRGDSP (SEQ. ID. No.3), mimetics thereof, echistatin, triflavin, disintegrins and snake venom.

72. (currently amended) The method of claim 59, wherein the amount ~~of;~~ of sequestration of amyloid, accumulation of amyloid, or uptake of amyloid is determined visually.

73. (currently amended) The method of claim 59, wherein the amount ~~of;~~ of sequestration of amyloid, accumulation of amyloid, or uptake of amyloid is measured using a capture reagent.

74. (previously presented) The method of claim 73, wherein the capture reagent is an antibody that binds to amyloid.

75. (original) The method of claim 59 wherein said cells are apolipoprotein E deficient brain cells or apolipoprotein E4 containing brain cells.

76. - 79. canceled.